



⚠ WARNING

Electrical Shock Hazard

- Disconnect power before servicing.**
- Replace all panels before operating.**
- Failure to do so can result in death or electrical shock.**

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

- a.** Do not operate or allow the oven to be operated with the door open.
- b.** Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary:
 - 1. Interlock Operation
 - 2. Proper Door Closing
 - 3. Seal and Sealing Surfaces (Arcing, Wear & Other Damage)
 - 4. Damage to or Loosening of Hinges & Latches
 - 5. Evidence of Dropping or Abuse
- c.** Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, waveguide or transmission line and cavity for proper alignment, integrity and connections.
- d.** Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation, and transmission systems shall be repaired, replaced, or adjusted by procedures described in service manual before the oven is released to the owner.
- e.** A microwave leakage check to verify compliance with the Federal performance standard should be performed on each oven prior to release to the owner.
- f.** Do not attempt to operate the oven if the window area of the door is broken.

MICROWAVE OVEN POWER OUTPUT MEASUREMENT

The power output of the magnetron can be measured by the following test: (for accurate results, the line voltage must be 120 VAC and the oven cavity must be clean).

- 1.** Fill a glass measuring cup with 453cc (16 oz.) of tap water. Stir the thermometer through the water until the temperature stabilizes.
- 2.** Place the cup of water in the center of the oven. Operate on HIGH for 60 seconds.
- 3.** Stir the thermometer through the water and record the maximum temperature.

- 4.** Subtract the cold water temperature from the hot water temperature. The normal result should be a 11.1-21.1°C (20-38°F) rise in temperature.

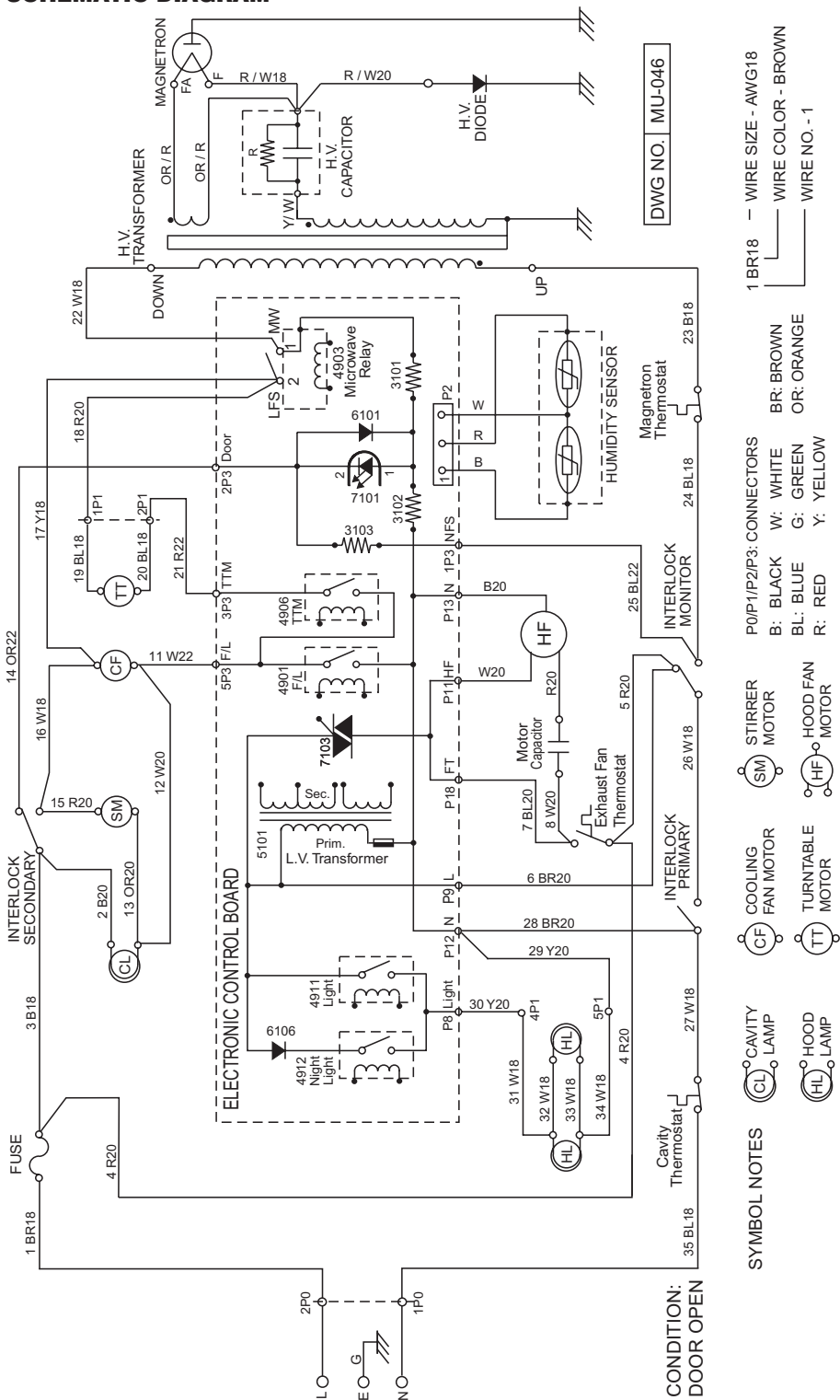
NOTE: Less than a 11.1°C (20°F) temperature rise may indicate an operating voltage of less than 110 volts or a low power output from the magnetron. Cooking time can be adjusted to compensate for either circumstance. Replace the magnetron only if the water temperature rise indicates a power output well beyond the normal result.

FAILURE CODES/INDICATIONS

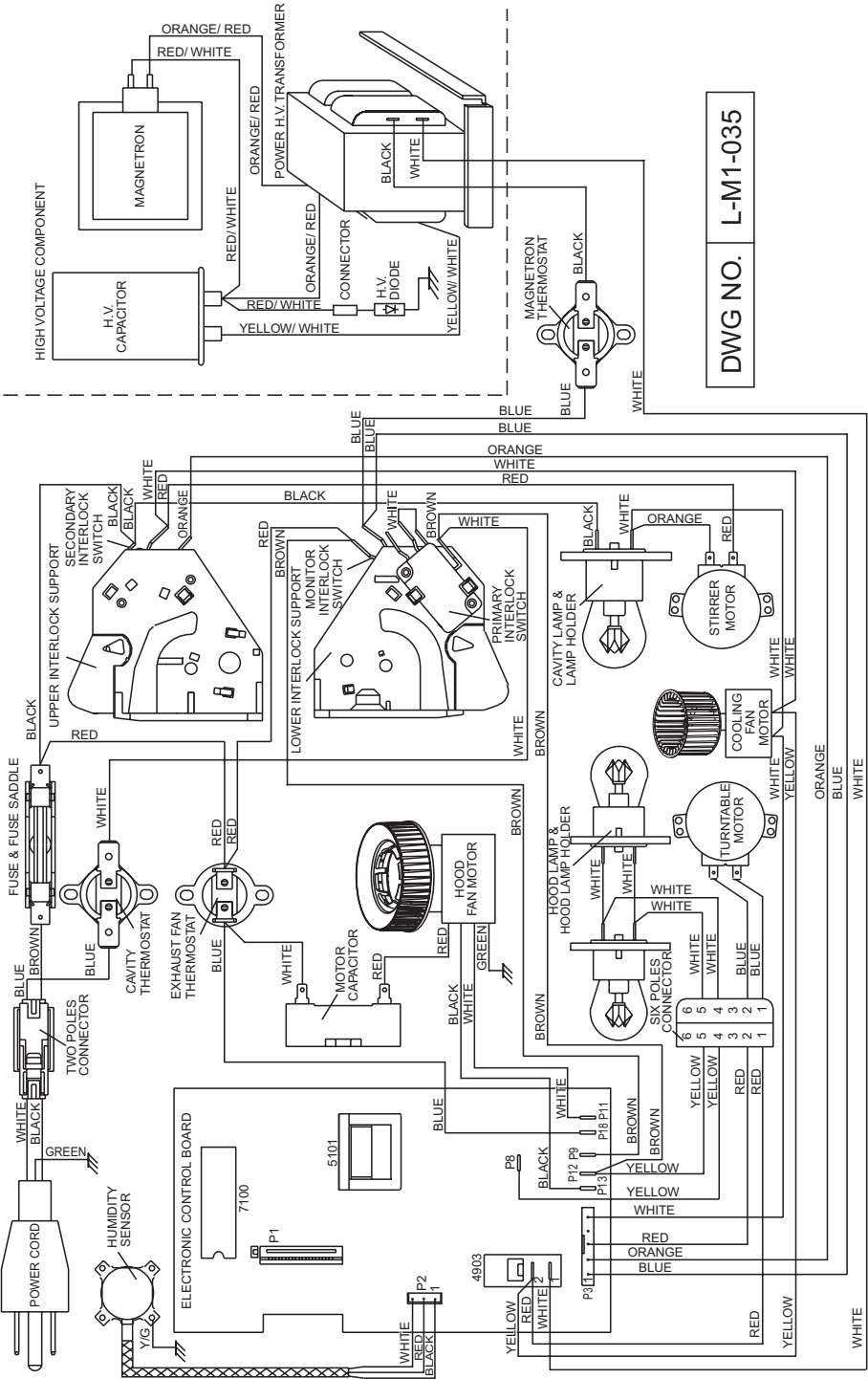
Display	Likely Failure Condition	Recommended Repair Procedure
Flashing colon “:”	Power failure	After a power failure, the colon “:” will be flashing. Press any key to end this indication. The colon will then be steady when in stand-by.
-F2-	Membrane switch failure	Replace membrane switch. If problem persists, replace control board.
-F3H-	Humidity sensor failure	Connect a new sensor to the board. If no failure code appears when starting sensor function, replace sensor. Otherwise, replace control board.
-F5-	Microwave relay failure	Check wiring to relay 4903 for short circuits. If wiring is okay, replace control board.

NOTE - The turntable will always be reset to rotating mode, i.e., after cooking is done or when OFF/CANCEL is pressed.

SCHEMATIC DIAGRAM

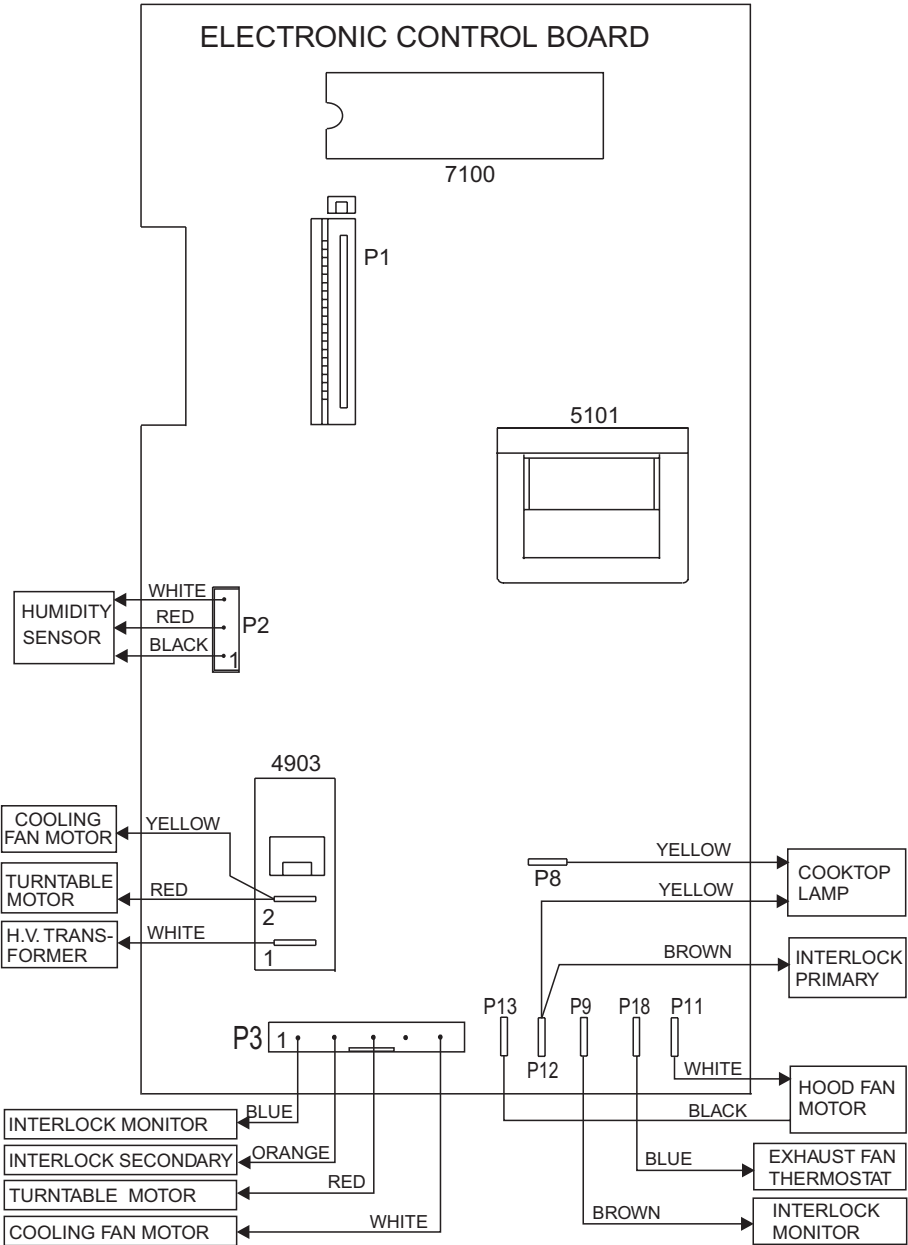


PICTORIAL DIAGRAM

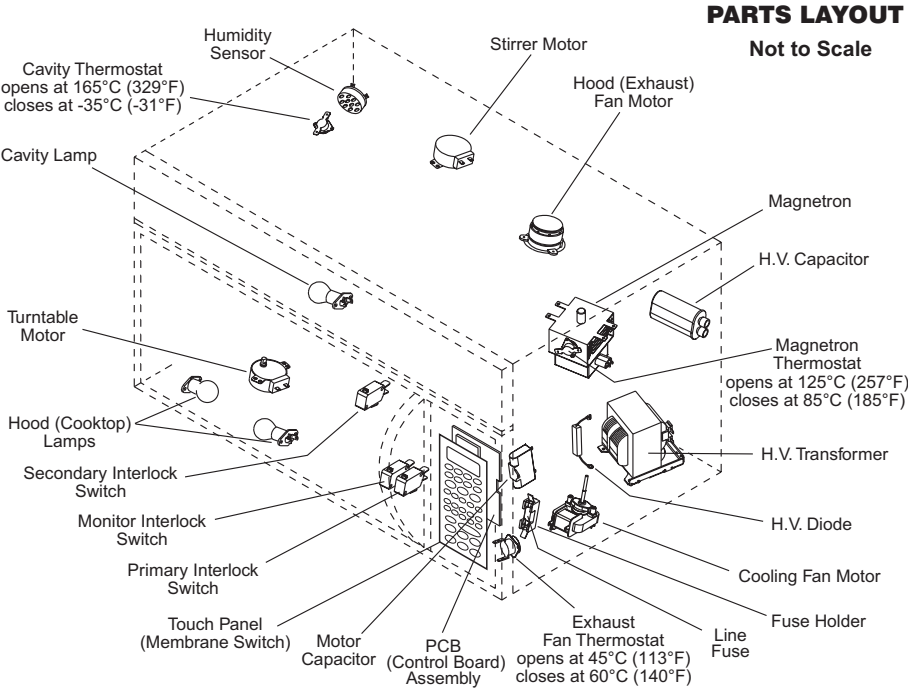


DWG NO. L-M1-035

PICTORIAL DIAGRAM



DWG NO. L-M1-038

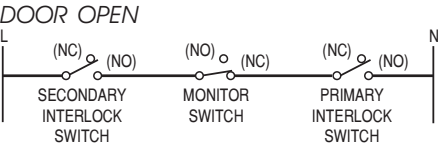
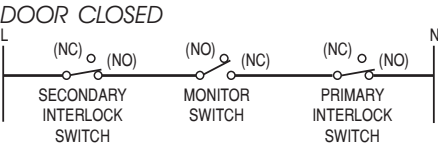


PRIMARY, MONITOR, AND SECONDARY SWITCH CHECKOUT PROCEDURE

Switch	Check By	Door Open	Door Closed
Primary Interlock	1. Disconnect the wires at the Primary Interlock Switch. 2. Check from the common terminal (White/Brown wires) to the normally open terminal (White wire).	—	+
Secondary Interlock	1. Disconnect the wires at the Secondary Interlock Switch. 2. Check from the common terminal (Black wires) to the normally open terminal (White/Red wires).	—	+
	1. Disconnect the wires at the Secondary Interlock Switch. 2. Check from the common terminal (Black wires) to the normally closed terminal (Orange wire).	+	—
Monitor	1. Disconnect the wires at the Monitor Switch. 2. Check from the common terminal (White wire) to the normally open terminal (Blue wires).	—	+
	1. Disconnect the wires at the Monitor Switch. 2. Check from the common terminal (White wire) to the normally closed terminal (Red/Brown wires).	+	—

(+) Continuity (–) No Continuity

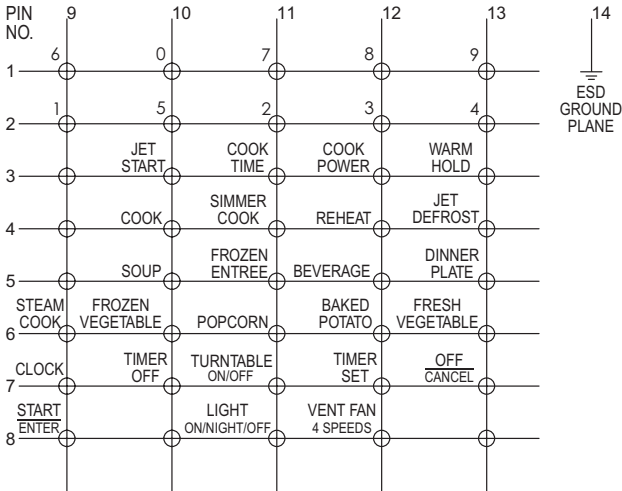
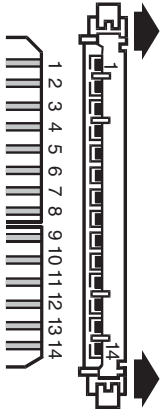
NOTE: These diagrams are not intended to show a complete circuit, they represent the position of switches during “DOOR OPEN” and “DOOR CLOSED” (continuity checks only).



TOUCH PANEL CONTINUITY DIAGRAM

Example of use: When BEVERAGE is selected, a resistance of less than 200 ohms will be observed between 12 and 5 on the flex circuit connector. See diagram below.

14 PIN FLEX CIRCUIT CONNECTOR



TOUCH PANEL AND MICROCOMPUTER BOARD TEST

The microwave hood combination is provided with a self-diagnostic routine that can be accessed through the touch key pad. To initiate this routine:

- 1. Depress the OFF/CANCEL button while opening the door, and while still depressing the OFF/CANCEL button, unplug the microwave oven for two seconds and plug it

back in.

- 2. Release the OFF/CANCEL button and then close the door.
- 3. Now, by pressing each button on the control panel, the number 8 will appear in the display to indicate that the circuits are complete and all relays are working.

KEY TABLE FOR TEST MODE

Key Name	In Circuit Relay	Display Position*
POPCORN	-	5
BAKED POTATO	-	4
FRESH VEGETABLE	-	2
FROZEN VEGETABLE	-	1
FROZEN ENTREE	-	5
BEVERAGE	-	4
DINNER PLATE	-	2
SOUP	-	1
STEAM COOK		4
SIMMER COOK	Humidity sensor	5♦
JET DEFROST	-	3
COOK	-	1
REHEAT	-	4
COOK TIME	-	5
COOK POWER	-	4
WARM HOLD	-	2
1	4901 (Cavity light)	5
2	4911 (Hood light)	4
3	-	3
4	-	2
5	-	1

Key Name	In Circuit Relay	Display Position*
6	4906 (Turntable motor)	5
7	-	4
8	4912 (Night light)	3
9	Triac (Hood fan)	2
0	-	1
CLOCK	Buzzer	5
START/ENTER	-	5
TURNTABLE ON/OFF	-	3
LIGHT ON/NIGHT/OFF	-	5
VENT FAN 4 SPEEDS	-	4
JET START	-	1
TIMER SET	-	3
TIMER OFF	-	1
OFF/CANCEL	-	See Text

* The No. 8 will appear in the display position indicated in the table.
♦ After 8 secs, Hmxxx will be displayed (xxx represents humidity reading).

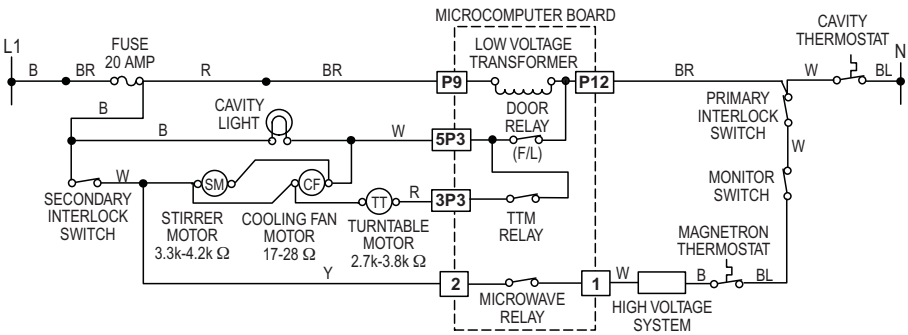
TROUBLESHOOTING GUIDE

Complete the following steps before checking microwave circuitry:

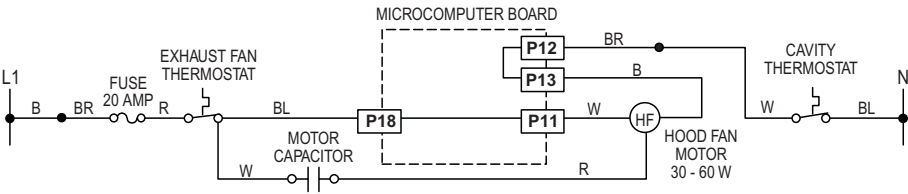
- 1. Check the line voltage, household fuses or circuit breakers.
- 2. Check for loose wiring or miswiring within microwave.
- 3. Disconnect white wire from power transformer and discharge high-voltage capacitor.

- 4. All testing must be done with an ohmmeter having a sensitivity of 20,000 ohms per volt or greater, and powered by at least a 9-volt battery.
- 5. All operational checks with microwave energy must be done with a load (453 cc [16 oz.] cup water in a glass measuring cup) in the microwave oven.

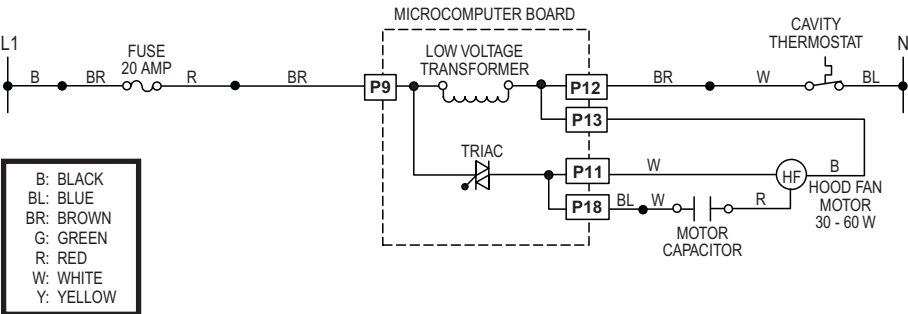
MICROWAVE COOKING



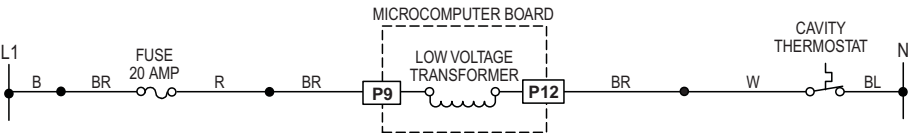
BLOWER FAN TURNS ON AUTOMATICALLY



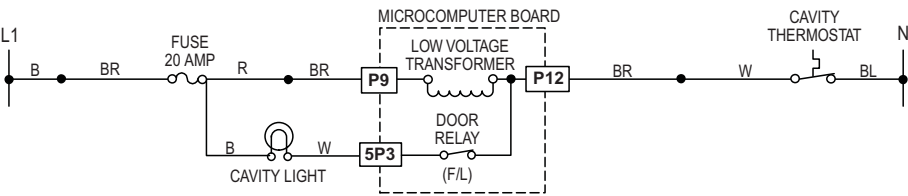
BLOWER FAN ON (VARIABLE SPEED)



MICROWAVE PLUGGED IN - TIME OF DAY DISPLAYED

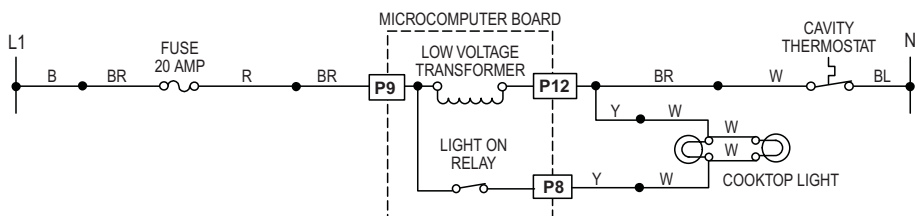


DOOR OPEN - CAVITY LIGHT IS ON

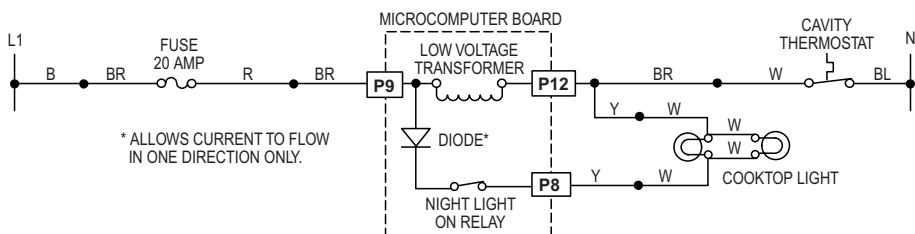


- B: BLACK
- BL: BLUE
- BR: BROWN
- G: GREEN
- R: RED
- W: WHITE
- Y: YELLOW

COOKTOP LIGHT ON HIGH



COOKTOP LIGHT ON LOW (NIGHT LIGHT)



B: BLACK
 BL: BLUE
 BR: BROWN
 G: GREEN
 R: RED
 W: WHITE
 Y: YELLOW

COMPONENT TESTS

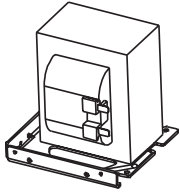
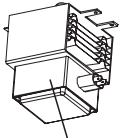
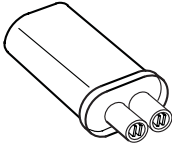
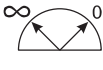

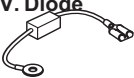
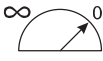
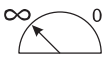
Discharge the high voltage capacitor and remove the lead wires from the primary winding of the high voltage transformer before conducting any of the following tests.

Conduct all operation tests with (1) 453 cc (16 oz.) cup of water in the oven.

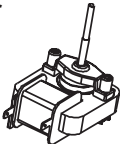
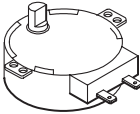
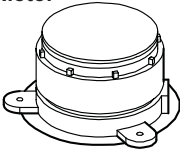
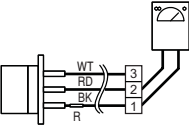
Conduct a microwave energy test after performing any tests or repairs to the microwave.

Check that all wire leads are in the correct position before operating the microwave oven.

Grasp wire connectors when removing the wire leads from microwave parts.

COMPONENT	TEST	RESULTS
H.V. Transformer 	1. Remove wire leads.	
	2. Measure resistance (ohmmeter scale: Rx1): Primary winding - Secondary winding - Filament winding -	- Less than 0.5 ohm (approximate) - 100 ohms (approximate) - 0 ohms
	3. Measure resistance (ohmmeter scale: Rx1000): Primary winding to grounding - Filament winding to grounding -	- Normal: Infinite - Normal: Infinite
Magnetron  Chassis	1. Remove wire leads. Install the magnetron seal in the correct position. Check that the seal is in good condition.	
	2. Measure resistance (ohmmeter scale: Rx1): Filament terminal -	- Normal: Less than 1 ohm
	3. Measure resistance (ohmmeter scale: Rx1000): Filament to chassis -	- Normal: Infinite
H.V. Capacitor 	1. Discharge capacitor.	
	2. Remove wire leads.	
	3. Measure resistance (ohmmeter scale: Rx1000): Terminal to terminal - Terminal to case -	- Normal: Momentarily indicates several ohms, gradually returns to Infinite  - Normal: Infinite 
H.V. Diode  (Some inexpensive meters may indicate infinite resistance both directions.)	1. Measure continuity, (ohmmeter scale: Rx1K): Forward -	- Normal: Continuity - Abnormal: Infinite 
	2. Measure continuity, (ohmmeter scale: Rx1K): Reverse -	- Normal: Infinite - Abnormal: Continuity 

CONTINUED ...

COMPONENT	TEST	RESULTS
Cooling Fan Motor 	1. Remove wire leads.	
	2. Measure resistance (ohmmeter scale: Rx1):	- Normal: 17-28 ohms (approximate) - Abnormal: Infinite or several
Turntable Motor/ Stirrer Motor 	1. Remove wire leads.	
	2. Measure resistance (ohmmeter scale: Rx1000):	Turntable Motor - Normal: 2700-3800 ohms (approx.) - Abnormal: Infinite or several Stirrer Motor - Normal: 3300-4200 ohms (approx.) - Abnormal: Infinite or several
Hood Exhaust Fan Motor 	1. Remove wire leads.	
	2. Measure resistance (ohmmeter scale: Rx1):	- Normal: Black - White: 30 - 60 ohms (approx.) Black - Red: 30 - 60 ohms (approx.) - Abnormal: Infinite or several
Humidity Sensor 	1. Remove the 3-pin connector from PCBA (P2). Note: Do not remove the attached resistor which is used for internal resistance calibration.	
	2. Measure resistance across pins 1 & 3 (ohmmeter scale: R x 1K):	- Normal: 2.8K ohms (approx.) at $25^{\circ} \pm 10^{\circ}\text{C}$ - Abnormal: Infinite or several
	3. Measure resistance across pins 2 & 3 (ohmmeter scale: R x 1K):	- Normal: 2.8K ohms (approx.) at $25^{\circ} \pm 10^{\circ}\text{C}$ - Abnormal: Infinite or several

PART NO. 4619-651-97751/8169292

NOTE: This sheet contains important
Technical Service Data

**FOR SERVICE TECHNICIAN ONLY
DO NOT REMOVE OR DESTROY**